

by introductions explaining in simple terms plant classification, binomial nomenclature and vernacular naming for the uninitiated. This edition is a substantially revised and enlarged version of *A Gardener's Dictionary of Plant Names* by the same author which was published in 1972.

The origins of the plant names in this book span botany, etymology, folklore and mythology and include different languages both medieval and modern, including Latin, Greek, French, Dutch and German. Inevitably the comprehensiveness of the entries in the book may be limited due to the selection process used to determine which names are included, but in most cases a plant name encountered will be found in the book. Although the origin and derivation of the species epithet is given in the explanation, the actual word from which it is derived often is not. For this inquisitive reviewer, it is a little annoying, but otherwise the book is wonderful to pick up and browse through again and again.

For gardeners and horticulturists without a taxonomic or classical background this book, as well as being instructive, will give many hours of entertainment and pleasure.

E. CAMPBELL

Fungi and Environmental Change. Edited by J. C. Frankland, N. Magan & G. M. Gadd. British Mycological Society Symposium, 1994, Cranfield University. Cambridge University Press. 1996. 351pp. ISBN 0 52149586 5. £60.00 (hardback).

Since the 1992 Earth Summit at Rio, the environment and environmental change have achieved a greater prominence in both public and political arenas. One sadly neglected area vital to the continued functioning of terrestrial and aquatic ecosystems are the fungi. This book on the effects which environmental change can have on fungi redresses this imbalance.

The work as a whole is an eminently readable volume containing much of interest to mycologists and non-mycologists alike. Anyone with an interest in the environment and environmental change will find much food for thought as well as valuable reference material. There are nineteen chapters, each with a comprehensive bibliography and all referenced in an extensive index and species list. Most chapters are illustrated with pictures, graphs, maps and photographs as appropriate, all of which add to the greater understanding of the relevant section. The chapters are written by eminent researchers, and where appropriate the first section of each chapter is an introductory review of the subject. Generally each paper, after a rapid introduction, focuses in on the current research within that field and then concludes by posing problems and avenues of research for the future.

A wide range of organisms from the fungal kingdom is covered, ranging from plant pathogens, lichens and macrofungi (mycorrhizal and saprophytic) to aquatic hyphomycetes. The topics covered utilising this broad spectrum of organisms include

two chapters on climate change and its effects on distribution with respect to fungal pathogens and their interactions with their hosts. The next chapter deals with alterations that may be expected to occur with pathogens and foliar saprophytes due to increased levels of UV-B radiation brought about by ozone depletion. The fourth chapter looks at implications for macrofungi in UK dune systems with global warming and the concomitant sea level rise. This is followed by an examination of Red Data Lists of fungi and the changes in them brought about by pollution and habitat loss. The next three chapters deal with different aspects of atmospheric pollution. *Firstly the effects of dry deposition of SO₂ and sulphite on litter-rotting fungi* are examined; this is followed by a look at the impact of general atmospheric pollution on fungi of the phyllosphere. This section then ends with an examination of the effects that acid mist and ozone can have on fungal decomposition of litter. Mycorrhizae are considered next, in terms of environmental stress, succession and the rehabilitation of deforested land. This important group of fungi is also considered in passing in many of the other papers. There is also a chapter dealing with the effects of changing agricultural practice (in the UK) on the soil mycoflora of upland grassland ecosystems. The chapter on concentration of radioactive fallout in basidiomes after the Chernobyl incident focuses on a real problem, still with us over ten years after the original event. Following this is an essay on river pollution effects on the little studied group of aquatic hyphomycetes. The mechanisms that fungi utilise to overcome salt stress and the presence of metals in their environment are also discussed, with the latter including an intriguing look at some of the possibilities of using fungi to remove metals and radionucleotides from the environment. A review of the situation regarding the effects of urban, industrial and agricultural pollutants on lichens is given with an extensive listing of source material and further reading. The impact of genetically modified microorganisms on fungi is also considered, showing how little studied this vital area actually is. The final chapter entitled 'Has chaos theory a place in environmental mycology?' by A. D. M. Rayner, arguing for the importance of fungi in natural systems and the importance of chaos theory in fungal systems, is a stimulating end to a valuable book.

My only complaints with the book are minor. In Chapter 16 'Urban, industrial and agricultural effects on lichens' by D. H. Brown there are several informative distribution maps of lichen species in relation to pollution. One of these maps is from a different source from the others and the distribution marker dots are of a different size: this initially gives a false impression of the density of records in a given area, specifically one contrary to the true picture. The only other complaint concerns two SEM pictures of leaf material colonized by mycelia in Chapter 13 'Effects of pollutants on aquatic hyphomycetes colonizing leaf material in freshwaters' by S. Bermingham. On neither of these pictures, nor in the legend or the text, is there any indication of the magnification or scale. Despite this omission, the pictures do still illustrate the point raised.

To conclude, this book is an interesting and exciting addition to the British Mycological Society's symposium series and has much to offer to researchers from

many disciplines. It should be found on the shelves of anyone interested in environmental change, not just mycologists.

G. RUTTER

A Guide to Species Irises: Their Identification and Cultivation. Edited by The Species Group of the British Iris Society. Cambridge University Press. 1997. xv + 371pp, 27 maps, 27 line drawings, 128 colour photographs. ISBN 0 521 44074 2. Price £65.00 (US\$105.00) (hardback).

The genus *Iris* has a vast number of devotees if the number of societies is any guide: there are many iris societies throughout the temperate regions of the world. The genus is justly popular, for it contains species which cover a wide range of plant size and flower shape and which will grow in a huge range of habitats from marshy to desertic and from subarctic to subtropical. Think of a colour: you can find an iris with flowers of that colour. Think of a season: you can find an iris which is in flower at that time.

Since W. R. Dykes' classic monograph *The genus Iris* was published in 1913 there have been changes in the classification of the genus and some new species have been discovered. Modifications to the classification occurred in papers by Diels (1930), Lawrence (1953) and Rodionenko (1961), and Mathew in *The Iris* (1981, 1989) brought together much of this information. Members of the British Iris Society's Species Group decided to assemble and summarize the material from these and other (often scattered or inaccessible) publications and to present it in book form and this book is the result. In addition to the information covered in the literature, the book gathers the knowledge and experience of many iris-growers and is a most valuable compilation. It includes all the species that have been described to date, and considers the changes in classification that have occurred.

The bulk of the book deals with the species (over 260): these are presented alphabetically in the subgenera, sections and series of the genus that are generally accepted at present. For each species there is a description (including the chromosome number where known) as well as data on geographical distribution, habitat, flowering time, and cultivation. Intraspecific taxa, where present, are similarly treated. Only one identification key is provided (to series *Sibericae*) and this is one of the failings of this book whose title includes the word 'identification'. Occasionally, as in section *Oncocyclus* and series *Californicae*, there is a synopsis which helps to narrow a plant down to a group of species, although in the case of the former it is necessary to know the country of origin of the plant in question. In subgenus *Scorpiris* for example, which contains 59 species, it is a mammoth task to wade through all the descriptions in an attempt to find a name. Similarly, in section *Iris* with 38 species, one is left to flounder. Would it have been so difficult to have provided keys?